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Application No. 10/629,100
Amendment dated August 23, 2006
Reply to Office Action of June 26, 2006

Docket No.: HO-P02803US0

AMENDMENTS TO THE CLAIMS

1. (currently amended) A foundation pile for providing support to an above-ground structure, said foundation pile comprising:

a generally cylindrical solid body having,

a top end wall,

a bottom end wall adapted for providing load bearing capacity, and

~~sidewalls~~ a sidewall-extending between said top end wall and said bottom end wall, said ~~sidewalls~~ sidewall having a ridge extending generally about said ~~sidewalls~~ sidewall and integral to said ~~sidewalls~~ sidewall, wherein said ridge has an offset surface extending generally outward from a surface of said ~~sidewalls~~ sidewall, said offset surface providing additional load bearing capacity and being generally unopposed by another offset surface between said top end wall and said bottom end wall.

2. (currently amended) The foundation pile of claim 1, wherein said ridge is a spiral ridge extending in a generally downward spiral direction about said ~~sidewalls~~ sidewall.

3. (currently amended) The foundation pile of claim 1, wherein said ~~sidewalls include~~ sidewall includes a second ridge extending generally about said ~~sidewalls~~ sidewall.

4. (currently amended) The foundation pile of claim 3, wherein said generally solid body is a precast concrete body formed to include section halves, said section halves mutually facing one another in an offsetting manner to create said offset surface and a second offset surface ~~offset surfaces~~ that form said first and second ridges.

5. (canceled)

6. (currently amended) The foundation pile of claim 1, wherein said ridge extends spirally substantially the entire distance between said top end wall to said bottom end wall.

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7. **(currently amended)** The foundation pile of claim 1, wherein said body includes ~~two spiral ridges~~ a second spiral ridge, each said ridge traversing horizontally about said ~~sidewalls~~ sidewall an arc distance of about 90°.

8. **(currently amended)** The foundation pile of claim 1, wherein said body includes ~~two spiral ridges~~ a second spiral ridge, each said ridge with offset surfaces, said offset surfaces providing a load bearing surface that is between about .35 to .55 times the load bearing surface of said bottom end wall.

9. **(previously presented)** The foundation pile of claim 1, wherein said body has a generally cylindrical shape.

10. **(withdrawn)** A method of installing foundation piles for supporting an above-ground structure, said method comprising the steps of:

providing a foundation pile apparatus having,

a top end wall,

a bottom end wall adapted for providing end bearing capacity, and

all around sidewalls extending between said top end wall and said bottom end wall, said all around sidewalls having a spiral ridge extending generally about said all around sidewalls and integral to said all around sidewalls and in a spiral direction extending from said top end wall to said bottom end wall, wherein said spiral ridge has an offset surface providing additional load bearing capacity; and

driving the foundation pile apparatus into unexcavated earth a desired distance, including setting the apparatus to a desired depth, whereby said offset surface and said end wall support a load on said pile apparatus.

11. **(withdrawn)** The method of claim 10, wherein said driving step includes applying a downward force upon said foundation pile, whereby said pile apparatus moves downwardly and rotatably into the unexcavated earth.

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12. **(withdrawn)** The method of claim 11, wherein said driving step includes driving the foundation pile such that the pile rotates about 1/4 turn for every given downward distance into the earth, said given downward distance corresponding to about the height of the pile.

13. **(withdrawn)** The method of claim 11, wherein said step of applying a downward force rotates the pile such that the spiral ridge loosens the soils adjacent the pile as the pile is driven downwardly into the earth.

14. **(withdrawn)** The method of claim 13, wherein said step of providing a pile apparatus includes providing a second spiral ridge about said all around sidewalls, and wherein said offset surface generally faces the direction of rotation of the pile apparatus during the driving step.

15. **(withdrawn)** A method of installing foundation piles for supporting an above-ground structure, said method comprising the steps of:

providing a concrete pile apparatus having a top end wall, a bottom end wall adapted for providing end bearing capacity, and all around side walls extending between said top end wall and said bottom end wall, said side walls having at least a pair of spiral ridges thereon that extends generally about a surface of said all around side wall and in a spiral direction extending from said top end wall to said bottom end wall, wherein each said spiral ridge has an offset surface extending generally outward from said surface of said all around sidewalls, said offset surface providing additional load bearing capacity to said concrete pile apparatus; and

applying a downward force to said concrete pile apparatus to drive the concrete pile apparatus into unexcavated earth a desired distance from the structure, including setting the apparatus to a desired depth whereby said spiral ridge provides additional load bearing capacity, and whereby said spiral ridge engages the unexcavated earth to cause said concrete pile apparatus to rotate as the concrete pile apparatus moves downwardly into the unexcavated earth.

16. **(withdrawn)** The method of claim 15, wherein said step of applying a downward force causes the foundation pile to rotate about 1/4 turn for every given downward distance, said given downward distance corresponding to about the height of the pile.

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17. **(withdrawn)** The method of claim 15, further comprising the step of installing one or more concrete pile apparatuses atop the first concrete pile apparatus by repeating, with respect to one or more additional concrete pile apparatus, said steps of providing a concrete pile apparatus and applying a downward force thereto, whereby the total load bearing capacity of a pile system including the installed pile apparatuses includes load bearing capacity provided by offset surface areas of spiral ridges on each installed concrete pile apparatus.

18. **(currently amended)** A foundation pile apparatus for providing support to an above-ground structure, said foundation pile apparatus comprising:

a cylindrical concrete body having

a top end wall,

a bottom end wall adapted for providing load bearing capacity, and

~~sidewalls~~ a sidewall extending between said top end wall and said bottom end wall, said ~~sidewalls~~ sidewall having two spiral ridges extending generally about said ~~sidewalls~~ sidewall and integral to said ~~sidewalls~~ sidewall, wherein each said spiral ridge has an offset surface extending generally outward from a surface of said ~~sidewalls~~ sidewall, said offset surface providing additional load bearing capacity, and being generally unopposed by another offset surface between said top end wall and said bottom end wall.

19. **(currently amended)** The foundation pile of claim 18, wherein said concrete body is a precast concrete body formed to include two vertical section halves, said section halves mutually facing one another in an offsetting manner to create said offset surfaces that form said spiral ridges.

20. **(currently amended)** The foundation pile of claim 19, wherein each said spiral ridge extends spirally downward about said ~~sidewalls~~ sidewall and traverses horizontally about said ~~sidewalls~~ sidewall an arc distance of about 90°, and wherein each said offset surfaces together has a load bearing surface of greater than about .33 times the load bearing surface of said bottom end wall.

21. **(previously presented)** The foundation pile of claim 20, wherein said concrete body has a generally cylindrical shape.

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